REMARKS

I. Status of the Application

Claims 1, 2, 5-12 and 21-36 are pending in this application. In the March 7, 2007 Office Action, the Examiner:

A. Rejected claims 1, 2 and 5-12 under 35 U.S.C. §112, second paragraph, as allegedly being indefinite;

B. Rejected claims 1, 2, 5, 7, 11, 12 and 26-36 under 35 U.S.C. § 102(b) as allegedly being anticipated by WO 00/54237 to Graviton, Inc. (hereinafter "Graviton");

C. Rejected claim 6, 8-10 and 21-25 under 35 U.S.C. § 103(a) as allegedly being obvious over Graviton in view of U.S. Patent Publication no. 2001/0033963 to Yamazaki et al. (hereinafter "Yamazaki");

D. Rejected claims 6, 8, 9 and 21-24 under 35 U.S.C. § 103(a) as allegedly being obvious over Graviton in view of L. Doherty et al., "Energy and Performance Considerations for Smart Dust" Int'l Journal of Parallel and Distributed Systems and Networks 4.3 (2001) (hereinafter "Doherty") ;

E. Rejected claims 1, 2, 5-9 and 11 under 35 U.S.C. § 103(a) as allegedly being obvious over Doherty in view of "Brainy Buildings Using 'Smart Dust' Can Keep Soaring Energy Costs in Check, say UC Berkeley Researchers". UC Berkeley Media Relations 25 May 2001 (hereinafter "UC Berkeley") or E. Jacobsen, "The Building Blocks of a Smart Sensor for Distributed Control Networks" Northcon/96 pp.285-290 (1996) (hereinafter "Jacobsen");

F. Rejected claims 10 under 35 U.S.C. § 103(a) as allegedly being obvious over Doherty in view of UC Berkeley or E. Jacobsen, in further view of Yamazaki;

G. Rejected claims 12 under 35 U.S.C. § 103(a) as allegedly being obvious over Doherty in view of UC Berkeley or E. Jacobsen, in further view of J. Hill et al., "System Architecture Directions for Networked Sensors" ACM Press 35.11 pp.93-104 (2000) (hereinafter "Hill");

H. Rejected claims 21-24 under 35 U.S.C. § 102(b) as allegedly being anticipated by Doherty;

I. Rejected claim 25 under 35 U.S.C. § 103(a) as allegedly being obvious over Doherty in view of Yamazaki;

J. Rejected claims 26-36 under 35 U.S.C. § 103(a) as allegedly being obvious over Doherty in view of Hill;

K. Rejected claims 1, 2, 5, 7 and 11 under 35 U.S.C. § 102(b) as allegedly being anticipated by G. Asada et al., "Wireless Integrated Network Sensors: Low Power Systems on a Chip". Proceedings of the 1998 European Solid State Circuits Conference (1998) (hereinafter "Asada");

L. Rejected claims 6, 8, 9 and 21-24 under 35 U.S.C. § 103(a) as allegedly being obvious over Asada in view of Doherty; and

M. Rejected claims 6, 8-10, and 21-25 under 35 U.S.C. § 103(a) as allegedly being obvious over Asada in view of Yamazaki.

In this response, applicant has amended claims 1, 21, 22 and 26 to further clarify the claimed subject matter. Applicant has further canceled claims 25 and 28, without prejudice. Applicant respectfully traverses the rejections of claims 1, 2 and 5-12, 21-36 in view of the

foregoing amendments and the following remarks.

II. The Rejection Under 35 U.S.C. §112, Second Paragraph is Moot

In the March 7, 2007 office action, the Examiner rejected claims 1, 2 and 5-12 as allegedly being indefinite. The basis for the rejection relates solely to claim 1, and the recitation "wherein the output digital signal is representative of the first control output". The Examiner alleged that the meaning of that phrase was unclear. Applicant respectfully disagrees.

The output digital signal as claimed is a digital signal that contains data representative of the first control output. The output digital signal may be identical to the first control output, or may be a different signal. The phrase "wherein the output digital signal is representative of the first control output" is merely included to allow for the fact that the first control signal may or may not undergo further transformation to become an output digital signal.

However, claim 1 has been amended to clarify that the output digital signal *includes* the control output.

It is respectfully submitted that the amendments to claim 1 render the indefiniteness rejection of claims 1, 2 and 5-12 moot.

III. The Rejection of Claim 1 over Graviton

Applicant respectfully traverses the rejection of claim 1 over Graviton. In particular, Graviton fails to disclose a device that includes a processing circuit configured to "cause an output digital signal to be communicated to another element of the building automation

system", and further "configured to generate the output digital signal including a first control output based on at least one set point and the process value obtained from the at least one MEMs sensor device", as called for in claim 1. As clearly taught by Graviton at page 16, line 30 to page 17, line 9, control outputs are generated by a separate node 70 in Graviton.

In order to show that Graviton teaches this limitation, the Examiner has referenced a sentence on page 27, lines 16-17 of Graviton. This sentence reads: "Such control may be effected at a purely local level, such as through the action of the processor 60 itself, or through processing at the node 70, or yet at the processor/end user 110." (Graviton at p.27, lines 16-17). The phrase "such control" appears to reference a prior sentence, which reads, "...the sensing of ingredients detects a situation requiring action to ensure that the final products conforms to the specifications, then a feedback or closed loop action may be taken so as to change aspects of the ingredients or the recipe or method of treatment of those ingredients in a process." Thus, there is at least an implication that the sensor 50 may generate a control signal based on sensor values and a set point value. However, nothing in this sentence discloses that the control value is communicated to another element in the building automation system. Thus, Graviton does not expressly disclose that the sensor module 50 (or processor 60) "[causes] an output digital signal to be communicated to another element of the building automation system".

Accordingly, the Examiner appears to rely on *inherency* to satisfy this element of claim 1. In other words, the Examiner appears to be asserting that Graviton *inherently* discloses that the processor 60 of Graviton is "configured to cause an output digital signal to be communicated to another element of the building automation system", wherein the output digital signal is a control signal. Applicant respectfully submits that the Examiner has not

successfully established that Graviton inherently causes a control signal to be communicated to another building automation system element.

In particular, the Examiner relies on the above quoted sentence from Graviton on page 27, lines 16-18 to establish that Graviton must communicate a control signal from a processor 60 of a module 50 to another device. (March 7, 2007 office action at p.36). Applicant has argued in a prior response that the if control is "effected at a purely local level", it is possible if not probable that the embodiment of page 27 of Graviton is a single module solution that includes actuator devices as well as the processor 50. Thus, inherency cannot be established because there are multiple ways that a missing piece may be resolved.

In the "response to arguments" section of the March 7, 2007 office action the Examiner argues that Graviton teaches that the processor 60 effectuates control, and that the processor 60 has no actuator associated with it. (March 7, 2007 office action at p.36). Thus, the Examiner asserts, the processor 60 *must* communicate control signals to something else. However, it is respectfully submitted that the Examiner has incorrectly read this sentence of Graviton out of context. The full context is set forth below:

> ...Such control may be effected at a purely local level, such as through the action of the processor 60 itself, or through processing at the node 70, or yet at the processor/end user 110. The actuator assembly 90 (Fig. 3) shows the combination of a sensor 100 and actuator 92 which may be advantageously utilized for the dual purpose of sensing and taking action based upon the sensed data...

(Graviton at p.27, lines 16-20). The second sentence quoted above clearly teaches that if control is effected at the processor 60 itself, it may be done by using a device that has the configuration of the actuator assembly 90, wherein the sensor and actuator are included in a *single module*. Thus, read in proper context, the embodiment of page 27 of Graviton does not inherently require the processing circuit 60 to communicate a control signal to another

element. Page 27 of Graviton clearly teaches the option of modifying the module 50 of the processing circuit 60 to include an actuator. In such a case, the processing circuit 60 of Graviton, would not communicate a control signal to another element.

Perhaps the lack of agreement between the Examiner and the Applicant is due to the lack of clarity of the reference itself. Regardless, there are clearly multiple ways for "control to be effected at a purely local level, such as through the action of the processor 60 itself", at least some of which do not read on claim 1. Accordingly, the Examiner has not successfully established anticipation by way of inherency.

For at least this reason, it is respectfully submitted that the rejection of claim 1 as anticipated by Graviton is in error and should be withdrawn.

IV. The Rejection of Claims 2, 5, 7, 11 and 12 Over Graviton

Claims 2, 5-7, 11 and 12 all stand rejected as anticipated by Graviton. Claims 2, 5-7, 11 and 12 all depend from and incorporate all of the limitations of claim 1. As discussed above, Graviton fails to teach or suggest a processing circuit that is integrated with a MEMS sensor and generates digital output signal including a control output based on set point information and sensor values, and which is configured to communicate the digital output signal including the control output to another element in the building automation system. Accordingly, for at least the same reasons as those discussed above in connection with claim 1, it is respectfully submitted that the rejections of claims 2, 5-7, 11 and 12 are in error and should be withdrawn.

V. The Rejection of Claims 26, 27 and 29-36 Over Graviton

Claims 26, 27 and 29-36 stand rejected as allegedly being anticipated by Graviton.

Claim 26 has many of the elements of claim 1, and further includes a limitation directed to a non-volatile programmable memory supported by the substrate and coupled to the processing circuit. Claims 27 and 29-36 have at least the same limitations as they all depend directly or indirectly from claim 26.

It appears that the Examiner has not advanced significant new arguments with respect to claim 26. (See Response to Arguments in the March 7, 2007 office action). Accordingly, Applicant incorporates the arguments in the Appeal Brief by reference herein.

In general, such arguments set forth that Graviton fails to disclose a device that incorporates processing circuitry and a sensor device integrated onto a single substrate, wherein a programmable non-volatile memory is supported on the substrate. Graviton discloses a single chip embodiment that includes "(optional memory)". The description of that embodiment does not include flash memory as the "optional memory". (See e.g. Graviton at Fig. 4 and accompanying text).

As a result, Graviton fails to disclose each and every element of claim 26. It is therefore respectfully submitted that the anticipation rejection of claim 26 over Graviton is in error and should be withdrawn.

Claims 27 and 29-36 depend from and incorporate all of the limitations of claim 26. Accordingly, claims 27 and 29-36 are patentable over the prior art for at least the same reasons. Moreover, claims 27-36 all contain additional limitations that are not taught or disclosed in Graviton. These reasons are identified to some extent in the June 20, 2006 Appeal Brief.

VI. The Rejection of Claims 6 and 8-10 over Graviton and Yamazaki

Claims 6 and 8-10 stand rejected as allegedly being obvious over Graviton in view of Yamazaki. Claims 6 and 8-10 depend from and incorporate all of the limitations of claim 1. Accordingly, claims 6 and 8-10 incorporates a limitation directed to a processing circuit configured to "cause an output digital signal to be communicated to another element of the building automation system", and further "configured to generate the output digital signal including a first control output based on at least one set point and the process value obtained from the at least one MEMs sensor device", as called for in claim 1. As discussed above in connection with claim 1, Graviton fails to teach or suggest such a processing circuit. Moreover, none of the modifications of Graviton proposed by the Examiner in the rejections of claim 6 and 8-10 cure the deficiency of Graviton with respect to claim 1. Accordingly, for at least the same reasons as those set forth above in connection with claim 1, it is respectfully submitted that the obviousness rejections of claims 6 and 8-10 are in error and should be withdrawn.

VII. The Rejection of Claims 21-24 Over Graviton and Yamazaki

The Examiner rejected claims 21-24 as allegedly being obvious over Graviton in view of Yamazaki. Claim 21 has been amended to incorporate the elements of claims 22 and 25, namely that the MEMs sensor(s) and the processing circuit are integrated on a first substrate, and that the battery is disposed *between the first substrate and a second substrate of the apparatus*.

The Examiner has not provided any legally sufficient motivation, suggestion or reason

to combine Graviton and Yamazaki as proposed. Graviton, as applied by the Examiner, is directed to a device that has sensors, memory and processing circuitry all integrated onto a *single* chip. (E.g. March 7, 2007 office action at p.15). By contrast, Yamazaki is directed a device having multiple chips on multiple printed wiring boards. The batteries of Yamazaki are disposed between two printed wiring boards. (See Yamazaki at Fig. 1 and paragraph [0028]).

The teachings of Yamazaki are inapplicable to Graviton. Graviton fails to disclose two printed wiring boards or even two integrated circuit substrates. There cannot be a motivation or suggestion or reason to place a battery between two substrates of a device that only has a single substrate.

The Examiner has not provided any motivation, suggestion, or reason to modify Graviton to include a second substrate. Because Graviton does not include or need two substrates, there can be no reason to modify Graviton to include a battery between two substrates.

Because there is no reason to modify Graviton to include two substrates, and thus there is no reason to modify Graviton to place a battery between two substrates, it is respectfully submitted that claim 21 as amended is allowable over Graviton and Yamazaki.

VIII. The Rejection of Claims 21-24 Over Graviton and Doherty

The Examiner also rejected claims 21-24 as allegedly being obvious over Graviton in view of Doherty. Claim 21 has been amended to incorporate the elements of claims 22 and 25, namely that the MEMs sensor(s) and the processing circuit are integrated on a first *semiconductor* substrate, and that the battery is disposed *between the first semiconductor*

substrate and a second substrate of the apparatus.

The Examiner has not alleged that either Graviton or Doherty teach or suggest a battery disposed between a first and second substrate of the apparatus. (See March 7, 2007 office action at pp.16, 23-24). Indeed, neither Graviton nor Doherty in fact teach such a battery disposed between a first and second substrate. Because the combination of Graviton and Doherty does not arrive at the invention of claim 21 as amended, it is respectfully submitted that amended claim 21 (as well as dependent claims 22-24) are not obvious over Graviton in view of Doherty.

IX. The Rejection of Claim 1 over Doherty, UC Berkeley and Jacobsen

The Examiner rejected claim 1 over Doherty in view of either UC Berkeley or Jacobsen. Doherty fails to disclose a processing circuit "configured to generate the output digital signal including a first control output based on at least one set point and the process value obtained from the at least one MEMs sensor device", as claimed in claim 1. The Examiner has essentially admitted this. (See March 7, 2007 office action at p.19). In particular, the Examiner notes that Doherty teaches the use of a *centralized controller* to generate control signals. (*Id.* at p.18). Individual sensor units ("smart dust motes") do not generate control signals.

However, the Examiner has alleged that it would have been obvious "to modify the apparatus processing circuit of Doherty et al. to enable it to generate the first control output based on the at least one set point and the sensor process value". The reason giving by the Examiner for modifying Doherty is that:

> ...UC Berkeley teaches that "everything should have its own built-in intelligence" (page 2),

> and since Doherty et al. teaches that, "Whenever possible, the brunt of the network's work should be done locally to minimize the communication costs of sending unnecessary information." (pg. 132). Thus, such a modification would allow the centralized controller of Doherty et al. to be bypassed altogether, and would minimize costs.

(March 7, 2007 office action at p.20).

The sensor application relied upon by the Examiner is the building environmental monitoring operation discussed in section 6.1 of Doherty. In that application, each room has approximately 10 sensors that communicate sensor values with actuators. (Doherty at section 6.1). The sensors perform limited sensing and communication in periodic intervals in order to conserve energy. (*Id.*) To the extent "localized control" would be implemented, it is intuitive that controllers would be located at the *actuators* of the system of Doherty, and never in the sensors. To this end, the PID or PI schemes used to control ventilation dampers can be computationally intensive, thereby having an associated energy-consumption cost. Thus, the Examiner's proposed modification of placing control in the wireless sensors has the net effect of reducing battery life. This is directly contrary to the teachings of Doherty, which stress preserving battery life.

Moreover, as noted above, the Examiner alleges that placing control in the wireless sensors can result in in reduction of unnecessary communications. It is respectfully submitted that this is not accurate. Moving control from a central controller (or local actuator) *does not result in reduced communications*. In particular, if the sensors are modified to perform control, then the sensors must constantly transmit control values to the actuators. Indeed, there is no reduction in transmissions because any transmission of measurement information that is eliminated by placing the controller in the sensor is replaced by a transmission of control information.

In addition to the transmission of control information, there is a possibility that the

central controller may nevertheless require sensor values for performing supervisory control ("building level optimization schemes"). Thus, the modification proposed by the Examiner may actually increase the frequency of transmissions from the sensors. In other words, placing control in the sensors can create the need to transmit control information *and* sensor information from the sensors.

Thus, the modification proposed by the Examiner results in increased computational cost in the sensor as well as the same level or greater transmission requirements. Such a modification would reduce battery life, and provide no advantage. As a consequence, there is no motivation, suggestion or reason to modify the "smart dust motes" of Doherty to generate control values as proposed by the Examiner.

For this reason it is respectfully submitted that the rejection of claim 1 over Doherty and UC Berkeley is in error and should be withdrawn. For essentially the same reasons, it is respectfully submitted that the rejection of claim 1 over Doherty and Jacobsen should be withdrawn.

X. The Rejection of Claims 2, 5-9 and 11 Over Doherty, UC Berkeley and Jacobsen

Claims 2, 5-9 and 11 all stand rejected as allegedly being obvious over Doherty and UC Berkeley or Jacobsen. Claims 2, 5-9 and 11 all depend from and incorporate all of the limitations of claim 1. Accordingly, for at least the same reasons as those set forth above in connection with claim 1, it is respectfully submitted that the obviousness rejections of claims 2, 5-9 and 11 over Doherty, UC Berkeley and Jacobsen are in error and should be withdrawn.

XI. The Rejection of Claims 10 and 12 over Doherty, UC Berkeley, Jacobsen and Other Prior Art

Claims 10 and 12 stand rejected as allegedly being obvious over Doherty in view of either UC Berkeley and Jacobsen, in further view of one of Yamazaki or Hill. Claims 10 and 12 depend from and incorporate all of the limitations of claim 1. Accordingly, claims 10 and 12 incorporates a limitation directed to a processing circuit configured to "generate the output digital signal including a first control output based on at least one set point and the process value obtained from the at least one MEMs sensor device", as called for in claim 1. As discussed above in connection with claim 1, there is no motivation or modify Doherty to include such a processing circuit. Moreover, none of the modifications of Doherty proposed by the Examiner in the rejections of claim 10 and 12 cure the deficiency of Doherty with respect to claim 1. Accordingly, for at least the same reasons as those set forth above in connection with claim 1, it is respectfully submitted that the obviousness rejections of claims 10 and 12 are in error and should be withdrawn.

XII. The Rejection of Claims 21-24 Over Doherty

The Examiner rejected claims 21-24 as allegedly being anticipated by Doherty. Claim 21 has been amended to incorporate the elements of claims 22 and 25, namely that the MEMs sensor(s) and the processing circuit are integrated on a first *semiconductor* substrate, and that the battery is disposed *between the first semiconductor substrate and a second substrate of the apparatus*.

The Examiner has admitted that Doherty does not disclose a battery disposed between a first and second substrate of the apparatus. (See March 7, 2007 office action at pp.23-24).

Accordingly, Doherty fails to disclose each and every element of claim 21, as amended.

Moreover, it would not be obvious to modify Doherty to include a battery disposed between a first and second substrate, as alleged by the Examiner on page 24 in connection with the rejection of claim 25. The Examiner has admitted that Doherty does not teach the use of second substrate. (*Id.* at p.24). Moreover, the Examiner never provides a reason to modify Doherty to include a second substrate. (*Id.* at pp.24-25). Thus, there is no reason to modify Doherty to include a battery disposed between a first and second substrate because Doherty does not include (nor would be modified to include) a second substrate.

It is therefore respectfully submitted that claim 21, as amended, is allowable over Doherty. Claims 22-24 depend from claim 21 and are allowable over Doherty for at least the same reasons.

XIII. The Rejection of Claims 26-36 Over Doherty in View of Hill

The Examiner rejected claims 26-36 as allegedly being obvious over Doherty in view of Hill. Claim 26 has been amended to recite that the programmable non-volatile memory stores configuration information relating to the apparatus. This limitation is similar to that of claim 28, which has been canceled without prejudice. It is noted, however, that unlike claim 28, amended claim 26 does not merely allege that the memory is *operable to* store configuration information, but rather that the memory *stores* configuration information.

The Examiner has alleged that Doherty teaches a memory at column 1 of page 125. (March 7, 2007 office action at p.25). Doherty does not disclose that this memory stores configuration information. (See rejections of claims 26 and 28, *id.* at p.26). Moreover, such memory is not a non-volatile programmable memory. (*Id.* at p.25) The modification of

Doherty proposed by the Examiner is to store program instructions in a non-volatile memory. (*Id.* at p.27). The Examiner does not allege that it would be obvious to modify Doherty to store apparatus *configuration information* in a programmable non-volatile memory. (See *id.* at p.26, rejection of claim 28).

Accordingly, the modification of Doherty proposed by the Examiner in connection with the rejection of claims 26 and 28 does not arrive at the invention of claim 26 as amended. In particular, the proposed modification of Doherty does not include a programmable non-volatile memory, "wherein the programmable non-volatile memory stores configuration information relating to the apparatus". For at least this reason, it is respectfully submitted that the obviousness rejection of claim 26 should be withdrawn.

Claims 27 and 29-36 depend from claim 26, and incorporate all of the limitations discussed above. Accordingly, for at least the same reasons as those set forth above in connection with claim 26, it is respectfully submitted that the obviousness rejections of claims 27 and 29-36 over Doherty and Hill are in error and should be withdrawn.

XIV. The Rejection of Claim 1 Over Asada

Applicant respectfully traverses the rejection of claim 1 over Asada. In particular, Asada fails to disclose a device that includes a processing circuit configured to "cause an output digital signal to be communicated to another element of the building automation system", and further "configured to generate the output digital signal including a first control output based on at least one set point and the process value obtained from the at least one MEMs sensor device", as called for in claim 1.

As with the other prior art devices, Asada discusses a sensor module that primarily

operates to sense conditions. None of the variations of that sensor module generates a digital output signal including a control output based on a set point and a process value, and then causes the digital output signal (and its control output) to be communicated to another element of a building automation system. Thus, Asada fails to anticipate claim 1.

In the Examiner's rejection of claim 1 over Asada, the Examiner noted that a "spectrum analyzer output" of the device may trigger a microcontroller if an "event" is detected. (March 7, 2007 office action at pp.29-30). The event represents a variance of a measured spectrum from background reference values. Thus, the "trigger" is arguably a "control output" that is based on a measured spectrum (process value) and a set point (background reference values). Even if this were accurate, Asada fails to teach that the "trigger" is communicated to another building automation system element.

In fact, Asada does not communicate any control output to another building automation system element. To allege that this element is present in Asada, the Examiner states that "protocols for node operation then determine whether a remote user or neighboring WINS node should be alerted. The WINS nodes then supplies an attribute of the identified event, for example, the address of the event in an event look-up table stored in all network nodes". Nothing in the preceding paragraph indicates the transmission or communication of a control output. The preceding paragraph merely indicates that detection of a certain condition may or may not be communicated. Nothing indicates that a signal containing *control* information is communicated.

Accordingly, the Examiner has failed to adequately allege that Asada discloses or teaches a processing circuit configured to "cause an output digital signal to be communicated to another element of the building automation system", wherein the output digital signal

includes a first control output based on at least one set point and the process value obtained from the at least one MEMs sensor device. As a consequence, the anticipation rejection of claim 1 over Asada is in error and should be withdrawn.

XV. The Rejection of Claims 2, 5, 7 and 11 Over Asada

Claims 2, 5, 7 and 11 all stand rejected as anticipated by Asada. Claims 2, 5, 7 and 11 all depend from and incorporate all of the limitations of claim 1. As discussed above, Asada fails to teach or suggest a processing circuit that is integrated with a MEMS sensor and generates digital output signal including a control output based on set point information and sensor values, and which is configured to communicate the digital output signal including the control output to another element in the building automation system. Accordingly, for at least the same reasons as those discussed above in connection with claim 1, it is respectfully submitted that the rejections of claims 2, 5, 7 and 11 are in error and should be withdrawn.

XVI. The Rejection of Claims 6, 8 and 9 Over Asada

Claims 6, 8 and 9 all stand rejected as allegedly being obvious over Asada in view of Doherty. Claims 6, 8 and 9 all depend from and incorporate all of the limitations of claim 1. None of the modifications of Asada proposed by the Examiner in connection with the rejections of claims 6, 8 and 9 overcome the deficiencies of Asada with respect to claim 1. Accordingly, for at least the same reasons as those discussed above in connection with claim 1, it is respectfully submitted that the rejections of claims 6, 8 and 9 are in error and should be withdrawn.

XVII. The Rejection of Claims 21-24 Over Asada in view of Doherty

As discussed above, claim 21 has been amended to incorporate limitations of claims 22 and 25. The Examiner does not allege that claim 25 is unpatentable over Asada and Doherty. Accordingly, claim 21 as amended is *not* unpatentable over Asada and Doherty. It is therefore respectfully submitted that the rejection of claim 21 over Asada and Doherty should be withdrawn.

Claims 22-24 depend from and incorporate all of the limitations of claim 21. Accordingly, for at least the same reasons as those set forth above in connection with claim 21, it is respectfully submitted that claims 22-24 are allowable over Asada and Doherty.

XVIII. The Rejection of Claims 6, 8-10 and 12 Over Asada and Yamazaki or Hill

Claims 6, 8-10 and 12 all stand rejected as allegedly being obvious over Asada in view of one of Yamazaki and Hill. Claims 6, 8-10 and 12 all depend from and incorporate all of the limitations of claim 1. None of the modifications of Asada proposed by the Examiner in connection with the rejections of claims 6, 8-10 and 12 overcome the deficiencies of Asada with respect to claim 1. Accordingly, for at least the same reasons as those discussed above in connection with claim 1, it is respectfully submitted that the rejections of claims 6, 8-10 and 12 over Asada and either Yamazaki or Hill are in error and should be withdrawn.

XIX. The Rejection of Claims 21-24 Over Asada and Yamazaki

The reasoning for the rejection of claim 21 over Asada and Yamazaki is substantially similar to the reasoning for the rejection of Doherty and Yamazaki. Both rejections rely on a modification of a single IC device to incorporate a second substrate and then place a battery

between the two substrates. (See March 7, 2007 office action at pp.24-25 & 33). As with the rejection of claim 21 over Doherty and Yamazaki, the Examiner has provided no motivation, suggestion or reason to modify Asada to include a second substrate. Accordingly, there is no motivation, suggestion or reason to modify Asada to place a battery between a first and second substrate.

For at least this reason, it is respectfully submitted that the rejection of claim 21 as amended is in error and should be withdrawn. Moreover, claims 22-24 depend from and incorporate all of the limitations of claim 21. Accordingly, for at least the same reasons as those set forth above in connection with claim 21, it is respectfully submitted that claims 22-24 are allowable over Asada and Yamazaki.

XX. The Rejections of Claims 26-36

Claims 26-36 stand rejected as allegedly being obvious over Asada in view of Hill. Claim 26 has been amended to include aspects of claim 28, namely, that the non-volatile memory stores configuration information relating to the apparatus.

The reasoning for the rejection of claim 26 over Asada and Hill is substantially similar to the reasoning for the rejection of Doherty and Hill. Both rejections rely on a modification of a different type of memory into a programmable non-volatile memory. (See March 7, 2007 office action at pp.27-28 & 34). As with the rejection of claim 26 over Doherty and Hill, the Examiner has not alleged that it would be obvious to modify Asada such that the programmable non-volatile memory stores configuration information relating to the apparatus, as called for in claim 26 as amended.

For at least this reason, it is respectfully submitted that the rejection of claim 26 as

amended over Asada and Hill is in error and should be withdrawn. Moreover, claims 27 and 29-36 depend from and incorporate all of the limitations of claim 26. Accordingly, for at least the same reasons as those set forth above in connection with claim 26, it is respectfully submitted that claims 27 and 29-36 are allowable over Asada and Hill.

XXI. Conclusion

For all of the foregoing reasons, it is respectfully submitted the applicant has made a patentable contribution to the art. Favorable reconsideration and allowance of this application is, therefore, respectfully requested.

Respectfully submitted,

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Enclosure